#18

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: Kevin GATESMAN et al.	Conf. No.: 6166
Application No.: 09/294,475	Group Art Unit: 2665
Filed: April 20, 1999	Examiner: Nguyen, D.
Attorney Docket: 09710-1150 Client Docket: WMA-99-001	

For: COMMUNICATIONS CONTROLLER FOR PROVIDING MULTIPLE ACCESS USING A SINGLE TELEPHONE LINE

APPEAL BRIEF

Honorable Commissioner for Patents
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is submitted, in triplicate, in support of the Notice of Appeal dated March 2, 2004.

I. REAL PARTY IN INTEREST

MCI, Inc. is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

Appellant is unaware of any related appeals and interferences.

III. STATUS OF THE CLAIMS

Claims 1-29 are pending in this appeal. No claim is allowed or canceled. This appeal is therefore taken from the final rejection of claims 1-29 on December 2, 2003.

IV. STATUS OF AMENDMENTS

No amendments to claims 1-29 have been filed since the final rejection of claims 1-29 on December 2, 2003.

V. SUMMARY OF THE INVENTION

The present invention addresses problems associated with users needing access to both voice and data communications simultaneously. (Specification, page 1, lines 8-11) The invention is directed to a device that enables a person with a computer and a telephone to use a telephone in a standard fashion while at the same time use the same telephone line for connecting a computer to the internet. Thus, the user is enabled to potentially receive as well as originate telephone calls transparently while using the same telephone line for data connection to a communications network. (Specification, page 1, line 22 - page 2, line 2)

In one embodiment, a communications module for connecting to the public switched telephone network (PSTN) includes a network interface, a telephone interface (for connection to any type of telephone or fax machine), a data interface (for connection to a computer), and a processor that is provisioned with a domain host name conversion protocol/network address translation (DHCP/NAT) program or module, and a data packet priority module or program to allow the processor to prioritize the data packets to allow a voice signal to have a higher priority than a data signal. The processor further includes an internal protocol (IP) routing module or

program that allows the signal, be it voice or data, to be routed to the appropriate device address. (Specification, page 2, lines 5-24)

To enable a user to transparently use his telephone, the communications module has a voice function portion that includes a ring generator, a dual tone multi-frequency (DTMF) decoder, and a dial tone generator. These components enable the module to provide to the user that same inputs he would have had were his telephone connected directly to the PSTN. (Specification, page 2, line 25 - page 3, line 2)

Referring to FIG. 1, processor 38, by means of its DHCP/NAT functionality, is able to assign a number of addresses to the user side of module 2, so that the external device connected to telephone interface unit 10 can have an address different from that of the external device connected to module 2 by way of data interface unit 12. Depending on the bandwidth of the communications line to which module 2 is connected the communications network, a multiple number of devices, each with its own pseudo address assigned by processor 38, can be connected to module 2, via a number of additional interface units not shown in the embodiment of module 2 in FIG. 1. By assigning multiple internal addresses at the user's side of module 2, at least two devices being utilized by the user can communicate with the communications network using the same communications connection line, be it a plain old telephone service (POTS) line, an integrated services digital network (ISDN) voice or data line, a digital subscriber line (DSL) data line or cable modem. In FIG. 1, processor 38 is shown to be connected to data interface unit 12 and voice over gateway 36 on its one side, and to network access interface unit 16 on its other side. (Specification, page 8, lines 6-21)

As a fail-safe to ensure that the user can use the telephone even if the communications module becomes inoperable, a direct connection (e.g., lifeline patchthru 60 of Figure 1) is

provided between the back end telephone interface and the front end access interface of the communications module so that even if the module fails, or is not turned on, the user can nonetheless dial out or receive calls as is done conventionally. (Specification, page 3, lines 20-24)

Accordingly, a user is thus enabled to both talk on the telephone and log onto the communications network simultaneously while using a single telephone line, reducing the user's need and cost for multiple telephone lines. (Specification, page 4, lines 1-7)

VI. ISSUES

A. Whether claims 1-3, 6-7, 9-15, 17-18, and 20-29 are obvious under 35 U.S.C. § 103(a) over *Tönnby et al.* (U.S. Patent No. 6,515,996) in view of *Itoi* (U.S. Patent No. 6,456,625).

B. Whether claims 4-5, 16, and 19 are obvious under 35 U.S.C. § 103 (a) over *Tönnby et al.* in view of *Itoi* and further in view of *Awadallah et al.* (U.S. Patent No. 6,449,251).

C. Whether claim 8 is obvious under 35 U.S.C. § 103 (a) over *Tönnby et al.* in view of *Itoi* and further in view of *Szeliga* (U.S. Patent No. 6,067,353).

VII. GROUPING OF CLAIMS

The claims should not be regarded as all standing together since the claims recite respective limitations that render each of the claims separately patentable. For the purposes of this appeal, the following groups are recognized:

A. Claims 1, 9, 17, and 25-26.

B. Claims 2, 13, and 23.

C. Claims 3, 10, 14, and 20.

D. Claims 4-5, 16, and 19.

E. Claims 6, 15, and 18.

F. Claims 7, 11-12, 21-22, and 24.

G. Claim 8.

H. Claims 27 and 28.

VIII. ARGUMENTS

A. THERE IS NO *PRIMA FACIE* BASIS TO REJECT CLAIMS 1-29 FOR OBVIOUSNESS BECAUSE THE APPLIED ART DOES NOT TEACH OR SUGGEST THE CLAIMED ROUTING MEANS.

The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention under any statutory provision always rests upon the Examiner. *In re Mayne*, 41 USPQ2d 1451 (Fed. Cir. 1997); *In re Deuel*, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Bell*, 26 USPQ2d 1529 (Fed. Cir. 1993); *In re Oetiker*, 24 USPQ2d 1443 (Fed. Cir. 1992). In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to provide a factual basis to support the obviousness conclusion. *In re Warner*, 154 USPQ 173 (CCPA 1967); *In re Lunsford*, 148 USPQ 721 (CCPA 1966); *In re Freed*, 165 USPQ 570 (CCPA 1970). The Examiner is required to show that all the claim limitations are taught or suggested by the references. *In re Royka*, 180 USPQ 580 (CCPA 1974); *In re Wilson*, 165 USPQ 494 (CCPA 1970).

The rejection of claims 1-29 under 35 U.S.C. § 103 should be reversed because *Tönnby et al.*, *Itoi*, and the secondary references—individually or in combination—do not teach or otherwise suggest the features recited in the claims.

For example, independent claim 1 recites the following element:

1. Apparatus for enabling more than one communicative process to be carried on at the same time over a subscriber line, comprising:

a network interface means for connecting to a circuit switched telephone network;

a telephone interface means for connecting to at least one telephone, wherein the telephone interface means is adapted to patch a call from the one telephone to the circuit switched telephone network via the network interface means upon a determination that no data connection is established to the circuit switched telephone network;

a computer interface means for connecting to at least one computer; and

a routing means for assigning internal network addresses to said telephone and said computer, and **selectively routing voice and data signals from said telephone and said computer to and from said circuit switched telephone network via said subscriber line based on said assigned internal network addresses**.

In addition, independent claim 9 recites:

a routing means communicatively connected to the circuit switched telephone network, telephone and computer interface means for assigning internal network addresses to said telephone and said computer, and **for selectively routing voice signals and data signals among said telephone and computer and the circuit switched telephone network**, so that both voice and data signals are communicated between said site and the circuit switched telephone network **using said subscriber line based on said internal network addresses**.

Independent claim 17 also recites:

communicatively connecting **a routing means** to the circuit switched telephone network, telephone and computer interfaces for assigning internal network addresses to said telephone and said computer, and **for selectively routing voice signals and data signals among said telephone and computer and the circuit switched telephone network**, so that both voice and data signals are communicated between said site and the circuit switched telephone network **using said subscriber line based on said assigned internal network addresses**.

Independent claim 25 sets forth:

logic configured to assign respective internal network addresses for the telephone and the computer, translate between the respective internal network addresses and an external network address assigned to the subscriber line, and **route voice and data signals among the telephone and the computer and the circuit switched telephone network over the subscriber line based on the assigned internal network addresses and the external network address**

assigned to the subscriber line, wherein the plurality of interfaces support patching a call from the telephone to the circuit switched telephone network upon a determination that no data connection is established to the circuit switched telephone network.

Finally, independent claim 26 provides:

routing voice and data signals between the telephone and the computer and the circuit switched telephone network over the subscriber line based on the assigned internal network addresses and the external network address assigned to the subscriber line.

The routing feature recited in claims, emphasized in bold above, is not taught or otherwise suggested by the applied art of record.

1. **Claims 1-3, 6-7, 9-15, 17-18, and 20-29 are patentable over *Tönnby et al.* and *Itoi* because the references do not suggest a routing means "for selectively routing voice and data signals from said telephone and said computer to and from said circuit switched telephone network via said subscriber line based on said assigned internal network addresses."**

In the final Office Action dated December 2, 2003, the Examiner acknowledged, in his rejection of claims 1-3, 6-7, 9-15, 17-18, and 20-29, that "Tonnby does not disclosed [*sic*] routing means for assigning internal network address to said telephone and said computer and routing the voice and data packets according to assigned internal network address" (p. 3). This admission is correct. *Tönnby et al.* is directed to a "modem with IP [Internet Protocol] support" for providing "access to the services of a switched telephony network" (Abstract). With reference to FIG. 5, *Tönnby et al.* describes a modem **4** that connects to a local area network (LAN) **61** using the IP protocol as well as enabling communications with devices connected to the LAN **61** using the same IP protocol (col. 2: 7-14). *Tönnby et al.* characterizes the IP modem as a "simple router": "In accordance with the invention the IP modem **4** has a LAN application and therefore serves as a *simple router* of a home LAN **61** to which different devices are connected" (col. 8: 22-24).

FIG. 8 of *Tönnby et al.* shows a physical implementation of an IP modem **4** with subscriber line interface **75** for connecting to subscriber line **5**, a telephone interface **75** for connecting with an analog telephone **1** via loop **57** (FIG. 5) and a separate PC/LAN interface **73/74** for connect with PC **2** and/or LAN **61** (FIG. 5). The analog telephone **1**, however, is not part of the LAN **61**, and *Tönnby et al.* gives no details on how calls between subscriber line **5** and telephone **1** and/or PC **2** are internally routed through the IP modem **41**—not to mention any suggestion, e.g., of a routing means for "selectively routing voice and data signals from said telephone and said computer to and from said circuit switched telephone network via said subscriber line based on said assigned internal network addresses" as recited in claim 1.

Itoi too fails to disclose a routing means for selectively routing voice signals from a telephone to and from a circuit switched telephone network via a subscriber line based on an assigned internal network address. In particular, *Itoi* is directed to building a telephony network for an organization "by accommodating existent telephone sets and internet phone devices in a computer network such as a LAN (Local Area Network) and so forth" ("Field of the Invention" section, col. 1: 7-10). To this end, *Itoi* describes a circuit arrangement for a LAN telephone switching apparatus **102** to permit an analog telephone set **311** to be connected to a LAN **102** (FIG. 3B). The circuit arrangement of FIG. 3B includes an analog telephone accommodation module **310** that is coupled to an address conversion module **321** for executing address conversions between telephone numbers of the analog telephone sets **311** and their IP addresses on the LAN (col. 8: 57-64).

Itoi fails to disclose, however, any routing means for "selectively routing voice and data signals from said telephone and said computer to and from said circuit switched telephone network via said subscriber line based on said assigned internal network addresses." In fact, *Itoi*

does not show routing anything between a telephone and a circuit switched telephone network via a subscriber line, much less through an assigned internal network address.

Accordingly, both *Tönnby et al.* and *Itoi* not only fail individually to disclose the features of the claims, their hindsight combination is also deficient. Assuming, *arguendo*, that a person of skill in the art would have been motivated at the time of the invention to modify *Tönnby et al.* in view of *Itoi*, that person of skill in the art, following the disclosure of *Itoi*, would only have been led to deploy the LAN telephone switching apparatus **102** of *Itoi* to add analog telephones to the LAN **61** in *Tönnby et al.* Thus, the added analog telephones would be ultimately connected to IP modem **4** via PC/LAN interface **73/74**, not to the non-LAN, analog telephone interface **75**.

Furthermore, all the words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). The claims also provide that there is a patch between the telephone and the circuit switched network. For example, claim 1 recites:

> a telephone interface means for connecting to at least one telephone, wherein the telephone interface means is adapted to patch a call from the one telephone to the circuit switched telephone network via the network interface means upon a determination that no data connection is established to the circuit switched telephone network;

However, *Tönnby et al.* does not disclose any such patching between PC/LAN **73/74**, and the Examiner does not contend that *Tönnby et al.* does disclose this link. On the contrary, the Examiner apparently reads the recited telephone interface means on *Tönnby et al.*'s telephone interface **75**, movable contacts **70** and **71**, and cable **72** (Office Action of December 2, 2003, p. 3, lines 1-2; cf. *Tönnby et al.*, FIGS. 6 and 8, cols. 8: 57–9: 7), but telephone interface **75** is not a LAN interface.

Since the supposed combination of *Tönnby et al.* and *Itoi* would not include a claim element for "selectively routing voice and data signals from said telephone and said computer to and from said circuit switched telephone network via said subscriber line based on said assigned internal network addresses," the Examiner has failed to establish a *prima facie* basis that claims 1-3, 6-7, 9-15, 17-18, and 20-29 are obvious over *Tönnby et al.* and *Itoi.*

2. As for claims 4-5, 16, and 19, *Awadallah et al.* too fails to teach the recited routing means.

Claims 4-5, 16, and 19 were rejected over *Tönnby et al.* and *Itoi* further in view of *Awadallah et al.*, but *Awadallah et al.*, which was applied by the Examiner for a different reason, fails to cure the deficiencies of the purported combination *Tönnby et al.* and *Itoi. Awadallah et al.*, like *Itoi*, only shows telephones on a LAN **217** but, unlike *Itoi*, only shows an IP telephone **26**, not an analog telephone, as the telephone device on the LAN **217**. Therefore, the obviousness rejection of claims 4-5, 16, and 19 also lacks a *prima facie* basis and should be reversed for at least that reason.

3. Claim 8 is patentable over *Tönnby et al.*, *Itoi*, and *Szeliga* too fails to teach the recited routing means.

The secondary reference *Szeliga*, applied for an unrelated reason against claim 8, is also deficient in rescuing the Examiner's rejection from the failure to provide a *prima facie* basis using *Tönnby et al.* and *Itoi. Szeliga* is merely directed to a quick disconnect switch **290** and has no disclosure of the routing means. Accordingly, the rejection of claim 8 should also be reversed for the lack of the requisite factual basis.

B. THERE IS NO MOTIVATION BUT IMPERMISSIBLE HINDSIGHT TO COMBINE *TÖNNBY ET AL.* AND *ITOI* IN THE REJECTION OF CLAIMS 1-29

Obviousness rejections require some evidence in the prior art of a teaching, motivation, or suggestion to combine and modify the prior art references. See, e.g., *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001); *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000); *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). The Patent Office must give specific reasons why one of ordinary skill in the art would have been motivated to combine the references. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998).

1. *Tönnby et al.* and *Itoi* are non-analogous art.

There is no motivation to combine *Tönnby et al.* and *Itoi* because the references constitute non-analogous art. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443 (Fed. Cir. 1992); see also *In re Clay*, 966 F.2d 656 (Fed. Cir. 1992) ("A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem.").

Itoi is not in the same field of endeavor as *Tönnby et al.*—*Tönnby et al.* is about connecting both a computer and telephone at a home to a circuit switched network, but *Itoi* is concerned with connecting analog telephones to a computer LAN. *Tönnby et al.*, in its

"Technical Field" section, specifically defines its "Technical Field" as "the invention relates to a modem which allows access to the PSTN network (or to the ISDN network) and to IP-based networks from the subscriber end of a subscriber line" (col. 1: 7-10).

In stark contrast, *Itoi*, in its "Field of the Invention" section, states: "The present invention relates to speech communication technology in the case where a telephone network is built by accommodating existent telephone sets and internet phone devices in a computer network such as a *LAN (Local Area Network)* and so forth" (col. 1: 6-10). As evident from FIGs. 3A and 3B, and accompanying text, the *Itoi* system strictly operates in a LAN environment without any connection to a "circuit switched telephone network," as positively recited in the claims of the present invention. For example, *Itoi* (col. 10, line 48 – col. 11, line 52), discloses a call control process as described in relation to Figure 10, solely in relation to telephone numbers corresponding to IP addresses, and therefore, does not operate with a circuit switched telephone network. Thus, there is no mention or suggestion whatsoever in *Itoi* of using any of its LAN telephones to access the PSTN network, the ISDN network, or any non-LAN telephone network (e.g., "circuit switched telephone network"). *Itoi* discloses no connection to allow "access to the PSTN network (or to the ISDN network) and to IP-based networks from the subscriber end of a subscriber line" as disclosed by *Tönnby et al.* (see col. 1: 9-11).

Moreover, *Itoi* is not reasonably pertinent to the problem with which the inventor is concerned, namely a "communications controller for providing multiple access using a single telephone line" (Title of the Appellant's application). The problem that is *Itoi* is concerned with is the problem of the exhaustion of the number of IP addresses" (Abstract), and *Itoi* is blissfully unaware of any problems with providing multiple access over a telephone line.

Because *Itoi* is neither in the same field of endeavor as *Tönnby et al.* nor reasonably pertinent to addressing issues with multiple access using a single telephone line, there is no motivation for one of ordinary skill in the art to combine the disclosures of the two non-analogous references.

2. The Examiner's proposed motivation for modifying *Tönnby et al.* in view of *Itoi* would not have been desirable to a person of ordinary skill in the *Tönnby et al.* art.

Furthermore, the mere fact that a reference can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills,* 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Although a prior art device "maybe capable of being modified to run the way the apparatus is claimed, there must also be a suggestion or motivation in the reference to do so." *In re Fritch,* 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992). Neither *Tönnby et al.* nor *Itoi* provides any suggestion or motivation for the construction proposed by the Office Action. It is well settled that it is impermissible simply to engage in hindsight reconstruction of the claimed invention, using Applicants' structure as a template and selecting elements from the references to fill in the gaps. *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

The Examiner's proposed modification is "to apply a routing means for assigning an internal network address to the devices coupling the interface as disclosed Itoi's system [sic] into Tonnby's system. The motivation would have been to increase the number of devices can access to the Internet" (Office Action dated December 2, 2003, p. 4, lines 8-11). This motivation, however, would not have been desirable to a person of ordinary skill in the *Tönnby et al.* art.

First, there is no mention in *Tönnby et al.* of any limitation on the LAN 61 for the number of devices that can access the Internet, as the access is handled by the modem 4 serving as a

simple router. There is no disclosure in *Tönnby et al.* of a need or object to allow more devices to connect to the Internet. Thus, "exhaustion of the number of IP addresses" as mentioned in *Itoi* (Per Abstract) is not a problem suggested or discussed by *Tönnby et al.* Therefore, there is no need or advantage to be obtained by a combination of the references to achieve the Examiner's stated goal.

Second, the Examiner gives no indication whatsoever of how one skilled in the art would be motivated to use the combination of the references, nor of how one skilled in the art would implement such a combination. Neither of the references helps in either of these regards; in fact, as discussed above, *Tönnby et al.* refers to its modem 4 serving as a "simple router" of its home LAN **61** (col. 8: 22-29). Adding the LAN addressing of *Itoi* to the LAN **61** of *Tönnby et al.* would add a great deal of complexity and cost to the home-based environment of *Tönnby et al.*

Moreover, even the proposed combination of *Tönnby et al.* and *Itoi* does not render the Examiner's unsupported statement true. In other words, the modified *Tönnby et al.* system would not operate to support more devices than the unmodified system. Notably, as the Examiner admitted, the *Tönnby et al.* system does not assign internal network addresses for the telephone **1** and the computer **2** but rather employs an external IP address of the subscriber line **5** in the IP modem **4** (col. 10: 1-18). One of ordinary skill in the art would find no motivation to include an internal network address assigning function in the IP modem 4 of *Tönnby et al.* to implement an operation that is already adequately performed as far as *Tönnby et al.* is concerned by IP modem **4**.

Therefore, the rejection of claims 1-29 as obvious based on any combination of *Tönnby et al.* and *Itoi* is improper and should be reversed by the Honorable Board.

C. CLAIMS 2, 13, AND 23 ARE ALSO NOT RENDERED OBVIOUS BY *TÖNNBY ET AL.* AND *ITOI* BECAUSE THESE REFERENCES FAIL TO DISCLOSE "A GATEWAY MEANS FOR PACKETIZING VOICE SIGNALS RECEIVED FROM SAID TELEPHONE INTERFACE."

Since dependent claims 2, 13, and 23 include the limitations of their independent claims pursuant to 35 U.S.C. § 112, ¶ 4, claims 2, 13, and 23 are non-obvious over *Tönnby et al.* and *Itoi* for at least the same reasons as their independent claims. Claims 2, 13, and 23 are also individually patentable on their own merits because they recite additional features that neither *Tönnby et al.* nor *Itoi* teach or suggest. For example, claim 2 recites:

> a gateway means for packetizing voice signals **received from said telephone interface** and depacketizing voice signals from said routing means, packetized signals being routed by said routing means for transmission to the circuit switched telephone network and **depacketized voice signals being routed to said telephone interface for establishing a telephone conversation between a caller using said telephone and an other caller connected to the circuit switched telephone network via another telephone**.

The Examiner asserts that Itoi discloses "a gateway means for packetizing a received voice signal from the telephone interface and depacketizing the received voice signals from routing means via PSTN (col. 9, lines 45-60 discloses a means for packetizing voice signal into a packet or depacketizing voice packet into voice signal)." (Office Action mailed December 2, 2003, p. 3, lines 15-18) The cited portion of *Itoi* (col. 9: 45-60) states:

> In a case where the analog telephone set **311** (FIG. 3B) has been connected to the LAN telephone switching apparatus **101** constituting the LAN telephone switching system, the power supply unit/power source unit **315** feeds electric power to this analog telephone set **311**, the call control module **322** included in the line unit **308** accepts a call from this analog telephone set **311**, and the A/D conversion module **309** included in the line unit **308** executes the analog-to-digital/digital-to-analog conversions of speech signals concerning this analog telephone set **311** and packet disassembling/assembling processes for digital speech signals concerning the same. In this way the analog telephone set **311** is permitted to join in the LAN telephone network, and speech over the analog telephone set **311** is actualized in the LAN telephone network.

Although *Itoi* describes a packet assembling/disassembling function for interfacing its LAN, the recited "telephone interface" is also "adapted to patch a call from the one telephone to the circuit switched telephone network via the network interface means." As discussed with regard to claim 1, from which claim 2 depends, *Itoi* does not suggest, along or in combination with *Tönnby et al.*, connecting analog telephone set **311** to telephone interface to a circuit switched network.

Therefore, the rejection of claims 2, 13, and 23 as obvious over *Tönnby et al.* in view of *Itoi* is improper and should be reversed by the Honorable Board.

D. CLAIMS 3, 10, 14, AND 20 ARE NOT RENDERED OBVIOUS BY *TÖNNBY ET AL.* AND *ITOI* BECAUSE THEY DO NO DISCLOSE "ESTABLISHING RESPECTIVE CONNECTIONS BETWEEN SAID EXTERNAL NETWORK ADDRESS OF SAID SUBSCRIBER LINE AND SAID INTERNAL NETWORK ADDRESSES OF SAID TELEPHONE AND SAID COMPUTER."

Claims 3, 10, 14, and 20 include additional features that are not taught or suggested by *Tönnby et al.* and/or *Itoi*. For example, claim 10 recites:

> "said routing means includes an address conversion and translation means for assigning said internal network addresses for said telephone and computer, and correlating said internal network addresses with an external network address of said subscriber line assigned by the circuit switched telephone network; and
>
> wherein said **routing means selectively routes** the voice and data signals between said telephone and computer, respectively, and **the circuit switched telephone network by establishing respective connections between said external network address of said subscriber line and said internal network addresses of said telephone and said computer so that both voice and data signals can be exchanged between said telephone and said computer connected to said communications controller and devices communicatively connected to the circuit switched telephone network.**"

The Examiner refers to FIG. 3B, element 307, for supposedly disclosing this feature (Office Action of December 2, 2003, page 3, line 18 - page 4, line 3), but *Itoi* at col. 8: 33-56 explains:

> Referring to FIG. 7, telephone numbers are the representative telephone numbers of those respective nodes (LAN telephone switching apparatuses 101) in the other groups to which communications have ever been made. **Global IP addresses are LAN addresses** (IP addresses) which are given to such respective nodes so as to be **unique on the LAN 102** shown in FIG. 1.
>
> An address control module 320, which is included in the address unit 307 as shown in FIG. 3B, gives local IP addresses as well as telephone numbers to the internet phone devices or sets 313 which are accommodated in the LAN telephone switching apparatus 101 including this address control module 320, and it brings the TCP/UDP port numbers into correspondence with the given telephone numbers fixedly (for example, at the same values). Also, the address control module 320 gives the local IP addresses as well as the telephone numbers to the packet communication ports of the A/D conversion module 309 corresponding to the analog telephone sets 311 which are accommodated in the above **LAN** telephone switching apparatus 101, and it brings the TCP/UDP port numbers into correspondence with the given telephone numbers fixedly. Then, the address control module 320 reflects the obtained results in the local table module 316.

There is no mention or suggestion, however, anywhere in *Itoi* of connection to a "circuit switched telephone network" as positively recited by claim 10. Thus, there is no suggestion or disclosure by *Itoi* of any "routing means" that selectively routes voice and data signals between a telephone and the "circuit switched network," as recited by claim 10, as *Itoi* is directed only to a LAN environment. As discussed previously with regard to claim 1, the combination of *Tönnby et al.*in view of *Itoi* fails to cure this deficiency. Therefore, the rejection of claims 3, 10, 14, and 20 as obvious over *Tönnby et al.* in view of *Itoi* is improper and should be reversed by the Honorable Board.

E. CLAIMS 6, 15, AND 18 ARE NOT RENDERED OBVIOUS BY *TÖNNBY ET AL.* AND *ITOI* BECAUSE THE COMBINATION OF THESE REFERENCES FAILS TO DISCLOSE "ROUTING MEANS APPORTIONS THE BANDWIDTH OF SAID SUBSCRIBER LINE."

Claims 6, 15, and 18 are also patentable over *Tönnby et al.* and *Itoi* on their own merits. For example, claim 6 recites that "said routing means apportions the bandwidth of said subscriber

line for selectively routing the voice signals and data signals between said telephone and computer, respectively, and the circuit switched telephone network."

The Examiner asserts that these features are disclosed by *Tönnby et al.* by stating, "the voice packet and data packet is [sic] simultaneously multiplexed into the subscriber line, Fig 7, Ref 80." (Office Action mailed December 2, 2003, page 3, lines 7-8) However, at col. 9: 38-44, *Tönnby et al.* states, "There is also an IP MUX/DMUX functionality 80, also referred to as IP router functionality, which takes IP packets from the different interfaces and sends them **in proper order** to the subscriber line interface 77. The IP MUX/DMUX functionality also provides for reception of IP packets from the subscriber line interface and for delivery of the received IP packets to their proper interfaces." Neither this passage nor anywhere else in *Tönnby et al.* or *Itoi* discloses that "said routing means apportions the bandwidth of said subscriber line for selectively routing the voice signals and data signals between said telephone and computer, respectively, and the circuit switched telephone network" as recited by Claim 6.

Therefore, the rejection of claims 6, 15, and 18 as obvious over *Tönnby et al.* in view of *Itoi* is improper and should be reversed by the Honorable Board.

F. CLAIMS 7, 11-12, 21-22 AND 24 ARE NOT RENDERED OBVIOUS BY *TÖNNBY ET AL.* AND *ITOI* BECAUSE THEY DO NOT TEACH A "VOICE CIRCUIT COMMUNICATIVELY CONNECTED TO SAID TELEPHONE AND SAID ROUTING MEANS."

Claims 7, 11-12, 21-22, and 24 set forth additional features not suggest by *Tönnby et al.* or *Itoi*, such as the following feature, recited in claim 11:

> a **voice circuit communicatively connected to said telephone and said routing means** for receiving and converting digital voice signals routed from said routing means into analog voice signals for said telephone, and converting and feeding analog voice signals input from said telephone into digital voice signals for said routing means.

The Examiner asserts: "Itoi discloses ... a voice circuit communicatively connected to said telephone and said routing means for receiving and converting digital voice signal routed from the routing means into analog voice signal for telephone and converting and feeding analog voice signals input from the telephone into digital voice signals for the routing means (Fig. 3b, Ref 309)." (Office Action mailed December 2, 2003, page 4, lines 3-6) However, *Itoi* (col. 8: 33-56) states:

> Referring to FIG. 7, telephone numbers are the representative telephone numbers of those respective nodes (LAN telephone switching apparatuses 101) in the other groups to which communications have ever been made. **Global IP addresses are LAN addresses (IP addresses) which are given to such respective nodes so as to be unique on the LAN 102 shown in FIG. 1.**
>
> An address control module 320, which is included in the address unit 307 as shown in FIG. 3B, gives **local IP addresses as well as telephone numbers to the internet phone devices or sets 313 which are accommodated in the LAN telephone switching apparatus 101** including this address control module 320, and it brings the TCP/UDP port numbers into correspondence with the given telephone numbers fixedly (for example, at the same values). Also, the address control module 320 gives the local IP addresses as well as the telephone numbers to the packet communication ports of the A/D conversion module 309 corresponding to the analog telephone sets 311 which are accommodated in the above LAN telephone switching apparatus 101, and it brings the TCP/UDP port numbers into correspondence with the given telephone numbers fixedly. Then, the address control module 320 reflects the obtained results in the local table module 316.

Itoi's A/D conversion module 309 (as shown in FIG. 3b) is communicatively connected to the address conversion module 321 and the analog telephone accommodation module 310, which are all located within, and communicatively connected to, LAN components of *Itoi.* There is no "routing means communicatively connected to the circuit switched network, telephone and computer interface means," as recited by claim 11, and thus there is no "voice circuit communicatively connected to said telephone and said routing means" as recited by claim 11, as neither *Itoi*, nor the combination of *Tönnby et al.* in view of *Itoi,* suggest or disclose these

features, as the telephone 311 of *Itoi* does not meet the limitations of the recited "telephone," as discussed previously.

Therefore, the rejection of claims 7, 11-12, 21-22, and 24 as obvious over *Tönnby et al.* in view of *Itoi* is improper and should be reversed by the Honorable Board.

G. CLAIMS 27 AND 28 ARE NOT RENDERED OBVIOUS BY *TÖNNBY ET AL.* AND *ITOI* BECAUSE NEITHER REFERENCE DISCLOSES THAT "THE GATEWAY MEANS IS CONFIGURED TO MAP A TELEPHONE NUMBER COMPATIBLE WITH THE CIRCUIT SWITCHED TELEPHONE NETWORK TO ONE OF THE INTERNAL NETWORK ADDRESSES."

As for claims 27 and 28, the purported combination of *Tönnby et al.* and *Itoi* is also deficient. For example, claim 27 recites that "the gateway means is configured to **map a telephone number compatible with the circuit switched telephone network** to one of the internal network addresses." The Examiner asserts that "Itoi discloses ... mapping the telephone number compatible with PSTN to an internal address (Fig. 4)" (Office Action mailed December 2, 2003, page 4, lines 6-7), but *Itoi* (col. 7: 35-64) states:

> A local table which is held in a local table module 316 included in the table unit 306 as shown in FIG. 3B, is a number table which serves to manage the telephone numbers of the analog telephone sets 311 or internet phone devices 313 connected to the master and nodes (refer to FIG. 2), and which has a data construction exemplified in FIG. 4. Referring to FIG. 4, **the telephone numbers are numbers (for example, extension numbers) which are given to the respective analog telephone sets 311 or internet phone devices 313 accommodated in the LAN telephone switching apparatus 101 holding the local table therein.** Local IP addresses ("LIP" indicated in FIG. 1) or private IP addresses are LAN (102) addresses (IP addresses) which are given locally to the respective analog telephone sets 311 or internet phone devices 313, respectively, accommodated in the LAN telephone switching apparatus 101 in the LAN telephone switching apparatus 101 holding the local table therein. A common global IP address is a LAN address (IP address) which is given to the LAN telephone switching apparatus 101 holding the local table therein, so as to be **unique on the LAN 102** shown in FIG. 1. TCP/UDP (transport control protocol/user datagram protocol) port numbers are port numbers to be given to TCP/UDP packets for storing therein speech signals communicated by the

> respective internet phone devices 313, for the purpose of executing the address conversions between the local IP addresses and the single global IP address. By way of example, the **extension numbers being the telephone numbers which are allotted to the respective analog telephone sets 311 or internet phone devices 313 can be used for the port numbers as they are.**

Thus, the telephone numbers shown in *Itoi* are not in fact "compatible with the circuit switched telephone network," as recited by claim 27. Therefore, the rejection of claims 27 and 28 as obvious over *Tönnby et al.* in view of *Itoi* is improper and should be reversed by the Honorable Board.

H. CLAIM 8 IS NOT RENDERED OBVIOUS FURTHER IN VIEW OF *SZELIGA* BECAUSE THE REFERENCES DO NOT SHOW "A CALL FORWARD MANAGEMENT MODULE" AND "A MESSAGE WAITING LIGHT FOR INFORMING A USER THAT A VOICE CALL HAS BEEN RECEIVED AND FORWARDED BY SAID CALL FORWARD MANAGEMENT MODULE TO SAID TELEPHONE."

The tertiary reference of *Szeliga* fails to provide a factual basis for which Examiner admits that the supposed combination of *Tönnby et al.* and *Itoi* is deficient. In particular, claim 8 recites:

> a call forward management module working cooperatively with said network interface means for forwarding a call to either said telephone or said computer; and
>
> a message waiting light for informing a user that a voice call has been received and forwarded by said call forward management module to said telephone.

The Examiner's reasoning in the rejection is as follows:

> Regarding claim 8, Itoi fails to fully disclose the claimed invention. However, Tonnby discloses DTMF generator, ring generator, a visual indicator for message and an alert message for incoming call (Col. 5, lines 50-62 and Col 9, lines 12-29) and Szeliga discloses a visual call waiting indicator (Fig 3, Ref 28 and col. 4, lines 24-47). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply a universal indicator to a subscriber and a visual call waiting indicator as disclosed by Szeliga into the system of Tonnby and Itoi in order to provide an indicator to a deaf person." (Office Action mailed December 2, 2003, page 5, lines 3-10)

If a proposed modification would render the prior art being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). The "alert messages" mentioned by the Examiner in *Tönnby et al.*, col. 5: 50-62 are a kind of IP packet. The alert messages are not mentioned in 9: 12-29, which lists in-band, acoustic control signals such as "off hook, on hook, hook flash signals, DFTM [*sic*] signals and to generate ring signals, dial tones and other acoustic signals." None of them relate to "informing a user that a voice call has been received and forwarded" but are more like low-level control signaling. The signals are acoustics for the benefit of machines, not humans, so changing the acoustic signaling to visual would not only be nonsensical to a hearing-impaired person, but the telephony system that uses such acoustic signaling would fail to operate.

The Examiner has also failed to relate the disclosure of the references to what claim 8 actually recites: "message waiting light for informing a user that a voice call has been received and forwarded by said call forward management module to said telephone." *Szeliga* is directed to detecting the presence of a call waiting signal on a telephone line, where the **call waiting signal** sent by the telephone company (col. 1: 31-32) is embedded in various signals. (Abstract) There is no mention in *Szeliga* of a "message waiting light for informing a user that a **voice call has been received and forwarded** by said call forward management module to said telephone."

Therefore, the rejection of claim 8 as obvious over *Tönnby et al.* in view of *Itoi* and further in view of *Szeliga* is improper and should be reversed by the Honorable Board.

IX. CONCLUSION AND PRAYER FOR RELIEF

In view of the arguments proffered, Appellants contend that the rejections under 35 U.S.C. § 103 cannot be sustained. 35 U.S.C. § 103 requires each limitation to be found in the references and a teaching for the combination or modification of the references to flow from the references themselves and not from the application disclosure or generalities. Appellants, therefore, request the Honorable Board to reverse each of the Examiner's rejections.

Respectfully Submitted,

DITTHAVONG & CARLSON, P.C.

4/30/04
Date

Margo Livesay
Margo Livesay, Ph.D.
Reg. No. 41,946

Phouphanomketh Ditthavong
Reg. No. 44,658

Attorneys for Applicant(s)

10507 Braddock Rd, Suite A
Fairfax, VA 22032
Tel. 703-425-8516
Fax. 703-425-8518

APPENDIX

1. (Previously Presented) Apparatus for enabling more than one communicative process to be carried on at the same time over a subscriber line, comprising:

a network interface means for connecting to a circuit switched telephone network;

a telephone interface means for connecting to at least one telephone, wherein the telephone interface means is adapted to patch a call from the one telephone to the circuit switched telephone network via the network interface means upon a determination that no data connection is established to the circuit switched telephone network;

a computer interface means for connecting to at least one computer; and

a routing means for assigning internal network addresses to said telephone and said computer, and selectively routing voice and data signals from said telephone and said computer to and from said circuit switched telephone network via said subscriber line based on said assigned internal network addresses.

2. (Previously Presented) Apparatus of claim 1, further comprising:

a gateway means for packetizing voice signals received from said telephone interface and depacketizing voice signals from said routing means, packetized signals being routed by said routing means for transmission to the circuit switched telephone network and depacketized voice signals being routed to said telephone interface for establishing a telephone conversation between a caller using said telephone and an other caller connected to the circuit switched telephone network via another telephone.

3. (Previously Presented) Apparatus of claim 1, wherein said routing means includes an address conversion and translation means for translating the respective internal network addresses of said telephone and computer to correspond with an external network address of said subscriber line assigned to communicate with the circuit switched telephone network.

4. (Original) Apparatus of claim 1, further comprising:

a packet prioritization module for setting respective priorities for voice and data signals.

5. (Previously Presented) Apparatus of claim 4, wherein said packet prioritization module further prioritizes voice signals over data signals so that voice signals take precedent over data signals when both voice and data signals are being communicated between said apparatus and the circuit switched telephone network using said subscriber line.

6. (Previously Presented) Apparatus of claim 1, wherein said routing means apportions the bandwidth of said subscriber line for selectively routing the voice signals and data signals between said telephone and computer, respectively, and the circuit switched telephone network.

7. (Previously Presented) Apparatus of claim 24, wherein said voice circuit comprises:

an analog to digital converter for converting voice signals from said telephone into digital signals for routing to a gateway that packetizes said digital signals;

a digital to analog converter for converting digital signals depacketized by said gateway into voice signals to be routed to said telephone;

a ring generator for ringing said telephone when a voice signal is received at said gateway;

a dual tone multi-frequency (DTMF) generator for generating an address whereto a voice signal from said telephone is to be routed; and

a dial tone generator for generating a dial tone for said telephone when said telephone is taken off hook.

8. (Original) Apparatus of claim 1, further comprising:

a dual tone multi-frequency (DTMF) generator;

a call forward management module working cooperatively with said network interface means for forwarding a call to either said telephone or said computer; and

a message waiting light for informing a user that a voice call has been received and forwarded by said call forward management module to said telephone.

9. (Previously Presented) A communications controller to be used at a site to connect to a circuit switched telephone network, said site including at least one telephone and one computer both adaptable to be accessible to the circuit switched telephone network, said communications controller comprising:

a network interface means for effecting a connection with the circuit switched telephone network via a subscriber line;

a telephone interface means for establishing a connection with said telephone, wherein the telephone interface means is adapted to passively patch a call from said telephone to the circuit switched telephone network via the network interface means;

a computer interface means for establishing a connection with said computer; and

a routing means communicatively connected to the circuit switched telephone network, telephone and computer interface means for assigning internal network addresses to said telephone and said computer, and for selectively routing voice signals and data signals among said telephone and computer and the circuit switched telephone network, so that both voice and data signals are communicated between said site and the circuit switched telephone network using said subscriber line based on said internal network addresses.

10. (Previously Presented) Communications controller of claim 9, wherein said routing means includes an address conversion and translation means for assigning said internal network addresses for said telephone and computer, and correlating said internal network addresses with an external network address of said subscriber line assigned by the circuit switched telephone network; and

wherein said routing means selectively routes the voice and data signals between said telephone and computer, respectively, and the circuit switched telephone network by establishing

respective connections between said external network address of said subscriber line and said internal network addresses of said telephone and said computer so that both voice and data signals can be exchanged between said telephone and said computer connected to said communications controller and devices communicatively connected to the circuit switched telephone network.

11. (Previously Presented) Communications controller of claim 9, further comprising:

a voice circuit communicatively connected to said telephone and said routing means for receiving and converting digital voice signals routed from said routing means into analog voice signals for said telephone, and converting and feeding analog voice signals input from said telephone into digital voice signals for said routing means.

12. (Previously Presented) Communications controller of claim 9, wherein said voice circuit comprises:

an analog to digital converter for converting voice signals from said telephone into digital signals for routing to a gateway that packetizes said digital signals;

a digital to analog converter for converting digital signals depacketized by said gateway into voice signals to be routed to said telephone;

a ring generator for ringing said telephone when a voice signal is received at said gateway;

a dual tone multi-frequency (DTMF) generator; and

a dial tone generator for generating dial tone for said telephone when said telephone is taken off hook.

13. (Previously Presented) Communications controller of claim 9, further comprising:

a gateway means for packetizing voice signals received from said telephone interface means and depacketizing voice signals received from said routing means, packetized voice signals being routed by said routing means for transmission to the circuit switched telephone

network and depacketized voice signals being routed to said telephone interface means for establishing a telephone connection between a caller using said telephone and an other caller connected to the circuit switched telephone network via another telephone.

14. (Previously Presented) Communications controller of claim 9, wherein said routing means includes an address conversion and translation means for translating the respective internal network addresses of said telephone and computer to correspond with an external network address of said subscriber line assigned to communicate with the circuit switched telephone network.

15. (Previously Presented) Communications controller of claim 9, wherein said routing means apportions the bandwidth of said subscriber line for selectively routing the voice signals and data signals between said telephone and computer, respectively, and the circuit switched telephone network.

16. (Previously Presented) Communications controller of claim 13, further comprising:

a packet prioritization module for setting respective priorities for voice and data signals, said packet prioritization module prioritizing voice signals over data signals so that voice signals take precedent over data signals when both voice and data signals are being communicated between said site and the circuit switched telephone network using said subscriber line.

17. (Previously Presented) A method of utilizing a subscriber line at a site to provide voice and data communication with a circuit switched telephone network, comprising the steps of:

connecting said subscriber line to a network interface for effecting a connection with the circuit switched telephone network;

connecting a telephone to a telephone interface for establishing a connection with said telephone;

determining whether a data connection is established with the circuit switched telephone network;

patching a call initiated from the telephone to the circuit switched telephone network via the network interface means based upon the determining step;

connecting a computer to a computer interface for establishing a connection with said computer; and

communicatively connecting a routing means to the circuit switched telephone network, telephone and computer interfaces for assigning internal network addresses to said telephone and said computer, and for selectively routing voice signals and data signals among said telephone and computer and the circuit switched telephone network, so that both voice and data signals are communicated between said site and the circuit switched telephone network using said subscriber line based on said assigned internal network addresses.

18. (Previously Presented) Method of claim 17, wherein said routing means apportions the bandwidth of said subscriber line for selectively routing the voice signals and data signals.

19. (Previously Presented) Method of claim 17, wherein said communicatively connecting step further comprises the step of:

prioritizing voice signals over data signals so that voice signals take precedent over data signals when both voice and data signals are being communicated between said site and the circuit switched telephone network using said subscriber line.

20. (Previously Presented) Method of claim 17, further comprising the steps of:

correlating said internal network addresses with an external network address of said subscriber line assigned by the circuit switched telephone network; and

establishing respective connections between said external network address of said subscriber line and said internal network addresses of said telephone and computer for selectively routing the voice and data signals between said telephone and computer, respectively, and the circuit switched telephone network to thereby exchange both voice and data signals between said telephone and said computer and devices communicatively connected to the circuit switched telephone network.

21. (Previously Presented) Method of claim 17, further comprising the step of:

communicatively connecting a voice circuit to said telephone and said routing means for receiving and converting digital voice signals routed from said routing means into analog voice signals for said telephone, and converting and forwarding analog voice signals output from said telephone into digital voice signals for said routing means.

22. (Previously Presented) Method of claim 17, further comprising the steps of:

converting analog voice signals from said telephone into digital voice signals for routing to a gateway that packetizes said digital voice signals;

converting digital voice signals depacketized by said gateway to analog voice signals to be routed to said telephone;

ringing said telephone when a voice signal is received at said gateway; and

generating a dial tone for said telephone when said telephone is taken off hook.

23. (Previously Presented) Method of claim 17, further comprising the step of:

packetizing voice signals received from said telephone interface and depacketizing voice signals from said routing means, packetized signals being routed by said routing means for transmission to said circuit switched telephone network and depacketized voice signals being routed to said telephone interface for establishing a telephone connection between a caller using

said telephone and another caller connected to said circuit switched telephone network via another telephone.

24. (Original) Apparatus of claim 1, further comprising:

a voice circuit for receiving and converting data routed from said routing means to said telephone, and for converting and feeding voice signals input from said telephone to said routing means.

25. (Previously Presented) A communications device configured to communicate with a circuit switched telephone network over a subscriber line, comprising:

a plurality of interfaces respectively configured to communicate with a telephone, a computer, and the circuit switched telephone network over the subscriber line; and

logic configured to assign respective internal network addresses for the telephone and the computer, translate between the respective internal network addresses and an external network address assigned to the subscriber line, and route voice and data signals among the telephone and the computer and the circuit switched telephone network over the subscriber line based on the assigned internal network addresses and the external network address assigned to the subscriber line, wherein the plurality of interfaces support patching a call from the telephone to the circuit switched telephone network upon a determination that no data connection is established to the circuit switched telephone network.

26. (Previously Presented) A method for communicating with a circuit switched telephone network over a subscriber line using a communications device, the method comprising:

determining whether a data connection is established with the circuit switched telephone network;

patching a call initiated from a telephone to the circuit switched telephone network based upon the determining step;

assigning respective internal network addresses for the telephone and a computer;

translating between the respective internal network addresses and an external network address assigned to the subscriber line; and

routing voice and data signals between the telephone and the computer and the circuit switched telephone network over the subscriber line based on the assigned internal network addresses and the external network address assigned to the subscriber line.

27. (Previously Presented) Apparatus of Claim 2, wherein the gateway means is configured to map a telephone number compatible with the circuit switched telephone network to one of the internal network addresses.

28. (Previously Presented) Apparatus of Claim 13, wherein the gateway means is configured to map a telephone number compatible with the circuit switched telephone network to one of the internal network addresses.

29. (Previously Presented) Method of Claim 17, further comprising:

mapping a telephone number compatible with the circuit switched telephone network to one of the internal network addresses.